AMENDMENTS TO THE SPECIFICATION:

In the Specification

Replace the paragraph on page 1, line 3, with the following new paragraph:

This application claims the benefit of U.S. Patent Application Serial No. 60/222,272, filed July 31, 2000.

On page 10, in the paragraph beginning on line 4, make the following revisions:

Figure 3C-1 and Figure 3C-1. Analog probe-directed DNA excision and repair when PNA site is inside heterologous insert site: Example of analog probes disrupting DNA replication wherein the analog probe binding site is inside the heterologous insert site. The thick lined loops or lines depict non-homologous (with respect to the target DNA) or heterologous insertion sequences.

On page 10, in the paragraph beginning on line 8, make the following revisions:

~~Figure 4~~Figures 4A and 4B. Cloning of DNA fragments mediated by PNA analog probes.

On page 42, in the paragraph beginning on line 23, make the following revisions:

In a preferred embodiment, the analog recognition site is only 7-8 bases long. Such short analog probe-DNA complexes (at least 8-mers) are stable in the case of homopyrimidine bis-PNAs (Demidov et al. 1995, Proc. Natl. Acad. of Sci., 92, 2637-2641; Faruqi et al., 1998, Proc. Natl. Acad. Sci., 95, 1398-140). The recognition site for homopyrimidine PNAs of about 7 bases long would randomly occur every 100-200 base pairs. Thus, if the targeted sequence is more than 200 base pairs, in most cases it would have a very high probability of containing the recognition site for this PNA ~~(Figure 4)~~

(Figures 4A and 4B). When most of the targeted sequences were unknown, a mixture of randomized homopyrimidine PNAs are used, which bind the targeted DNA approximately every 100-200 base pairs. Alternatively, pseudocomplimentary PNAs could be used for target activation.